

CLAIMS:

5 1. A non-irritating, anti-microbial, multi-ply absorbent article comprising:
 a plurality of plies, at least one of said plies defining an outer ply;
 at least one of said plies having a surface defining an inner surface;
 at least one siloxane composition applied to at least a portion of said
at least one outer ply; and
 an antimicrobially effective amount of at least one antimicrobial
agent applied to said at least one inner surface.

15 2. The multi-ply absorbent article of claim 1, wherein said plurality of
plies comprises three plies.

 3. The multi-ply absorbent article of claim 2, wherein said three plies
define two outer plies and an inner ply, respectively, and wherein a surface on said
inner ply defines said inner surface.

 4. The multi-ply absorbent article of claim 2, wherein said three plies
define an outer ply, an inner ply, and a liquid-impermeable base ply, respectively,
and wherein a surface on said inner ply defines said inner surface.

20 5. The multi-ply absorbent article of claim 2, wherein said plurality of
plies comprises two plies.

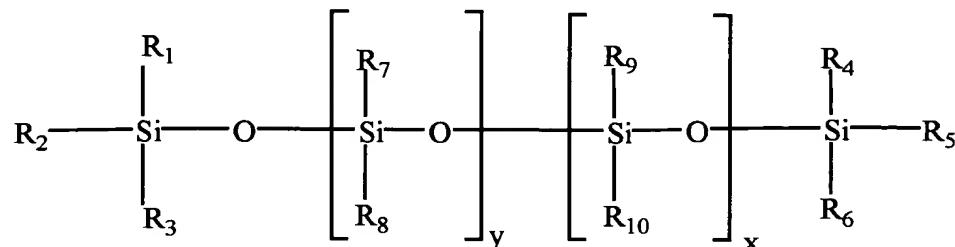
 6. The multi-ply absorbent article of claim 5, wherein each of said
plies defines an outer ply, said plies each having two surfaces, and one of the
surfaces on at least one of said plies defining said inner surface.

 7. The multi-ply absorbent article of claim 1, wherein said at least one
siloxane composition comprises at least one polysiloxane.

25 8. The multi-ply absorbent article of claim 7, wherein said at least one
polysiloxane comprises at least one amine-modified polysiloxane.

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9. The multi-ply absorbent article of claim 8, wherein said at least one amine-modified polysiloxane is selected from the groups consisting of compounds having the formula:



percent;

wherein x and y are integers > 0 ;

the mole ratio of x to $(x + y)$ is from 0.005 percent to about 25

and;

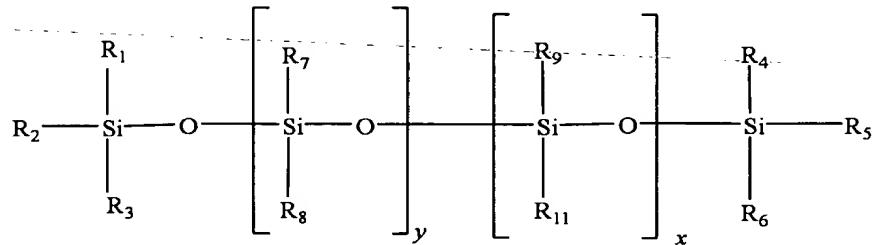
R_1, R_3, R_4 , and R_8 - R_9 are C_1 to C_6 alkyl substituents;

R_2 and R_5 are C_1 to C_6 alkyl, alkyl alcohol, or hydroxyl substituents;

R_{10} is a moiety including at least one functional group selected from the group consisting of amines, imines, and amides.

10. The multi-ply absorbent article of claim 9, wherein R_{10} comprises at least one amine group.

11. The multi-ply absorbent article of claim 10, wherein the amine-modified polysiloxane is blended with at least one other modified polysiloxane of the formula:



wherein x and y are integers > 0 ;

the mole ratio of x to $(x + y)$ is from 0.005 percent to about 25 percent;

5 R_1, R_3, R_4 , and $R_6 - R_9$ are C_1 to C_6 alkyl substituents;
and
 R_2 and R_5 are C_1 to C_6 alkyl, alkyl alcohol, or hydroxyl substituents;

10 R_{11} comprises at least one functional group selected from the group consisting of ethers, polyethers, esters, amines, imines, amides, and the alkyl and alkenyl analogues of such functional groups.

12. The multi-ply absorbent article of claim 11 wherein R_{11} is of the general formula:

15 $-R_{12}-(R_{13}-O)_a-(R_{14}-O)_b-R_{15}$;

 wherein R_{12} , R_{13} and R_{14} are alkyl chains of C_1 to C_3 , R_{15} is hydrogen or a C_1 - C_4 alkyl group, and "a" and "b" are integers of from 1-100.

20 13. The multi-ply absorbent article of claim 1, wherein said at least one antimicrobial agent comprises at least one virucide.

25 14. The multi-ply absorbent article of claim 13, wherein said at least one virucide comprises a carboxylic acid having the structure $R-COOH$, wherein R is a radical selected from the group consisting of C_1-C_6 alkyl, carboxy C_1-C_6 alkyl, carboxyhydroxy C_1-C_6 alkyl, carboxy halo C_1-C_6 alkyl, carboxy dihydroxy C_1-C_6 alkyl, dicarboxyhydroxy C_1-C_6 alkyl, C_1-C_6 alkenyl, carboxy C_1-C_6 alkenyl, dicarboxy C_1-C_6 alkenyl, phenyl, and substituted phenyl radicals.

15. The multi-ply absorbent article of claim 1 formed as a facial tissue.

16. The multi-ply absorbent article of claim 1 formed a bath tissue.

17. The multi-ply absorbent article of claim 1 formed as a paper towel.

25 18. The multi-ply absorbent article of claim 1 formed as a diaper.

19. The multi-ply absorbent article of claim 1 formed as a sanitary napkin.

20. An absorbent article comprising:
a first outer ply, an inner ply, and a second outer ply;
5 at least one siloxane composition applied to an outward surface of
said first and second outer plies; and
an antimicrobially effective amount of at least one antimicrobial agent applied to said inner ply.

21. The absorbent article of claim 20, wherein said at least one siloxane composition comprises at least one amine-modified polysiloxane.

22. The absorbent article of claim 21, wherein said at least one antimicrobial agent comprises at least one carboxylic acid.

23. A method for inhibiting the transfer of illness comprising:
providing a multi-ply absorbent article comprising a plurality of plies, at least one of said plies defining an outer ply; at least one of said plies having a surface defining an inner surface; at least one siloxane composition applied to at least a portion of said at least one outer ply; and an antimicrobially effective amount of at least one antimicrobial agent applied to said at least one inner surface;
15 contacting a fluid containing microbes with said absorbent article;
absorbing said fluid within said absorbent article; and
entrapping said fluid in contact with said antimicrobial agent within
said absorbent article.

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24. The method of claim 23, wherein said fluid is a nasal discharge.

25. The method of claim 23, wherein said illness is a viral infection.

26. The method of claim 23, wherein said antimicrobial agent comprises at least one virucide.

27. The method of claim 23, wherein said at least one siloxane composition comprises at least one amine-modified polysiloxane.

28. A method for making an antimicrobial, multi-ply absorbent article comprising:

5 applying an antimicrobially effective amount of at least one antimicrobial agent to at least one surface of a first tissue paper web;
applying an untreated tissue web to each surface of said first tissue paper web;
crimping said tissue paper webs together to form a three ply composite; and
applying at least one siloxane composition to at least one outer surface of said composite.

29. The method of claim 28, wherein said antimicrobial agent comprises at least one virucide.

15 30. The method of claim 28, wherein said at least one siloxane composition comprises at least one amine-modified polysiloxane.

31. A method for making an anti-microbial, multi-ply absorbent article comprising:

20 applying an antimicrobially effective amount of at least one antimicrobial agent to at least one surface of an absorbent material;
applying a liquid-impermeable base to one surface of said absorbent material;
applying a liquid-permeable outer ply to an opposite surface of said absorbent material;
assembling said absorbent material, said base, and said outer ply to form a three ply composite; and
applying at least one siloxane composition to at least one surface of said outer ply.

32. The method of claim 31, wherein said absorbent article is a diaper.
33. The method of claim 31, wherein said absorbent article is a sanitary napkin.
34. The method of claim 31, wherein said at least one siloxane composition comprises at least one amine-modified polysiloxane.